[JP,11-128594,A(1999)]

Japanese (PDF)

File Wrapper Information

FULL CONTENTS CLAIM + DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE INVENTION TECHNICAL PROBLEM MEANS DESCRIPTION OF DRAWINGS DRAWINGS

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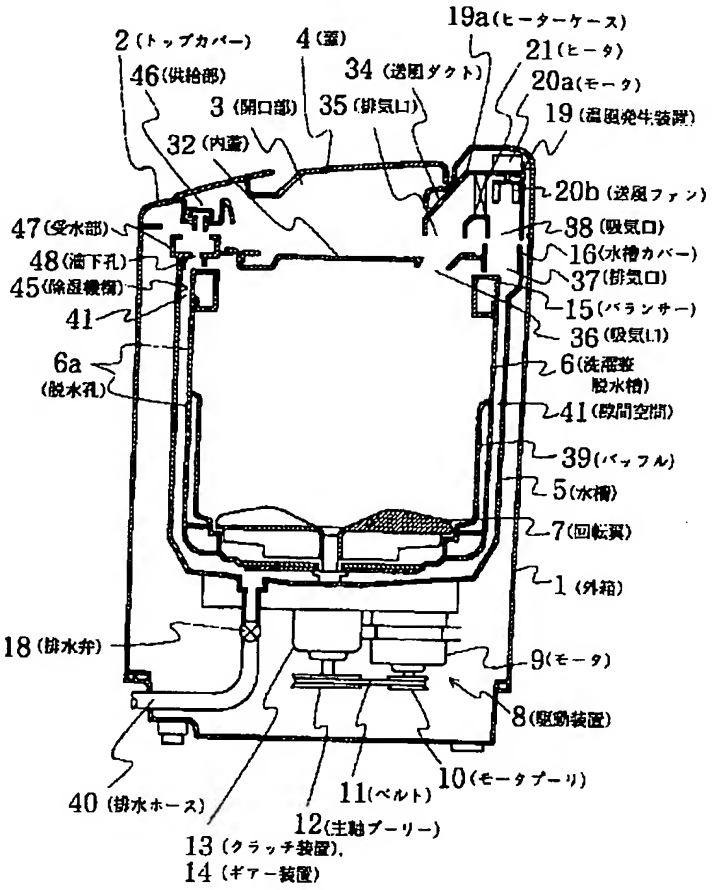
FULL CONTENTS

[Claim(s)]

[Claim 1] In the cistern supported in the case, wash-cum-the dehydration tack which carried out the opening of the upper surface is arranged, enabling a free revolution. In the washer/dryer which arranged the rotary wing in the bottom in this wash-cum-dehydration tack, established a warm air feed means to supply warm air in said wash-cum-dehydration tack at the time of a drying stage, and established the dehumidification means which carries out condensation recovery of the moisture which evaporated from the washing Said dehumidification means makes dehumidification space crevice space between the inner wall side of a cistern, and the external wall surface of wash-cum-a dehydration tack. It is the washer/dryer characterized by having prepared the feed water part of cooling water above this dehumidification space, and this feed water part forming the dropping hole of cooling water so that the dropping location of cooling water may be located on the

Drawing selection Representative draw



[Translation done.]

balancer of wash-cum-a downward dehydration tack.
[Claim 2] It is the washer/dryer according to claim 1 characterized by locating and forming the dropping hole of cooling water in the periphery approach of a balancer.
[Claim 3] A balancer is a washer/dryer according to claim 1 characterized by forming the upper surface in a slope which becomes low toward the direction of outside dehumidification space.
[Claim 4] A balancer is a washer/dryer according to claim 1 or 3 characterized by forming the projection part by a rib etc. inside on top.
[Claim 5] A balancer is a washer/dryer given in Claim 1 characterized by forming the upper surface in a fine rugged surface, Claim 3, or Claim 4.
[Claim 6] A washer/dryer given in either of Claim 1 which formed the dropping hole of the cooling water of a feed water part in cistern covering, was located in the periphery by the side of wash-cum-the dehydration tack of this dropping hole, and protruded the peripheral wall on the underside of cistern covering in the shape of a periphery to Claim 5.
[Claim 7] A washer/dryer given in either of Claim 1 it was made to rotate dehydration-cum-a washer at the time of dropping of cooling water to Claim 6.

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the washer/dryer which supplies warm air in wash-cum-a dehydration tack in the drying stage of wash drying operation, dries the washing, and collects the moisture which evaporated as water.
[0002]
[Description of the Prior Art] The washer/dryer which warm air is efficiently contacted for the washing held in wash-cum-the dehydration tack, dries, and collects the moisture which evaporated as water is indicated by JP,H6-327896,A, for example. Drawing 6 is structural drawing of the washer/dryer of the disclosure to this JP,H6-327896,A, it is TOBBU covering which arranged 1 in the case, arranged 2 in the upper part of this case 1 in drawing, and formed the opening 3 for washing receipts and payments, and opening and closing of opening 3 are enabled with the lid 4.
[0003] 5 is **** which collects wash liquid and rinse liquid in a case 1, and is supported by the case 1 free [a splash] with the vibration isolation (not shown). Wash-cum-the dehydration tack which 6 was arranged free [a revolution] in the cistern 5, and drilled two or more dehydrating holes

6a in the peripheral wall surface, The motor 9 which are the rotary wing which arranges 7 in the base of wash-cum-the dehydration tack 6 free [a revolution], and the drive unit which 8 is arranged in the outside bottom of a cistern 5, and offers the driving force of a revolution of a rotary wing 7 and wash-cum-the dehydration tack 6, and is made to generate driving force, It consists of a principal-axis pulley 12 connected by the motorized pulley 10 which **** and transmits that driving force, and the belt 11, reduction-gear equipment 14, and clutch equipment 13 which changes the driving force to this reduction-gear equipment 14.

[0004] The balancer of the shape of a ring which 15 is attached [shape] to the upper bed part periphery of wash-cum-the dehydration tack 6, and reduces an oscillation of wash-cum-the dehydration tack 6 in a dehydration process, 16 is arranged so that the upper part of a balancer 15 may be covered from the upper bed of a cistern 5. Hose bonding opening which prepares cistern covering of the shape of a ring which presses down spilling of the water by revolution of wash-cum-the dehydration tack 6, and 17 in a top cover 2, and supplies washing water and rinse water in a cistern 5, and 18 are the drain valves prepared in the waste pipe linked to the bottom of the cistern 5.

[0005] 19 is the warm air generator formed in the space in the case 1 formed between a top cover 2 and the cistern covering 16, it is constituted from a blower 20 and a heater 21, generates an air style with a blower 20 at the time of a drying stage, heats this air style at a heater 21, and ventilates warm air 22 in wash-cum-the dehydration tack 6. 23 is an existing duct of the flexibility which one end is connected to the cistern covering 16, it connects [flexibility] the other end to the warm air generator 19, and makes the warm air generator 19 and a cistern 5 open for free passage.

[0006] 24 is a warm air back run cutoff member, form the triangle-like projection 25 in the center, and form the sheet metal 26 of this projection 25 which has flexibility up and down, and it protrudes so that wash-cum-the dehydration tack 6 and a crevice may be maintained to the inner skin of a cistern 5. The water which passes through the crevice space A of wash-cum-the dehydration tack 6 and a cistern 5 is circulated smoothly, and the air style has composition to intercept.

[0007] Overflow tubing with which 27 has an outlet 28 at the one end, and has the valve plate 29 in the other end, and 30 are the warm air generator 19 and a dehumidifier system open for free passage. The dehumidifier system 30 and the exhaust duct 31 open for free passage are connected to 29 copies of valve plates, the outlet 28 of the overflow tubing 27 is connected to a drain valve 18, and a drain valve 18 and the dehumidifier system 30 are made to open for free

passage.
[0008] The inner cover with which 32 plugs up main opening of the ring-like cistern covering 16, the rotary-wing vent which formed 7a in the rotary wing 7, and 33 are the vents formed in the inner bottom of wash-cum-the dehydration tack 6.
[0009] Next, it washes and the action of the drying stage set up after a rinse and each termination of a process of dehydration is explained. When a blower 20 and a heater 21 operate, warm air occurs and it blows off from a duct 23 inside wash-cum-the dehydration tack 6. In this case, warm air flows into the crevice space B between the underside of the cistern covering 16, and the upper bed of wash-cum-the dehydration tack 6, and is directly ventilated into wash-cum-the dehydration tack 6 from the crevice space B.
[0010] The warm air which entered in wash-cum-the dehydration tack 6 carries out direct contact to the washing having contained the moisture where a dehydration process is completed, and which is on the rotary wing 7 in wash-cum-the dehydration tack 6, and dries this.
[0011] [the warm air which took the moisture contained in the washing and became high / humidity] Although the vent 33 formed in the bottom of wash-cum-the dehydration tack 6 is passed and it flows into the crevice space A of a cistern 5 and wash-cum-the dehydration tack 6, since the flow to the upper part is prevented by the warm air back run cutoff member 24, It flows through the inside of a waste pipe into a drain valve 18 as a downward air style, and shows around through the overflow tubing 27 and the exhaust duct 31 to the dehumidifier system 30 from an outlet 28.
[0012] It is cooled with the dehumidifier system 30, condensation clearance of the moisture is carried out, and the warm air 22a which became high [humidity] turns into warm air 22 from the warm air generator 19 again, and is ventilated into wash-cum-the dehydration tack 6. The drying stage which carries out predetermined time operation of the above action, and dries the washing is performed.
[0013] In addition, although the warm air which blew off from the duct 23 flows into the space A of a cistern 5 and wash-cum-the dehydration tack 6, the flow to a lower part is prevented by the warm air back run cutoff member 24, and it is supplied effectively in wash-cum-the dehydration tack 6.
[0014]
[Problem to be solved by the invention] By forming the warm air back run cutoff member 24 in the crevice space A between wash-cum-the dehydration tack 6, and a cistern 5 in the above washers/dryers It prevents mixing with the warm air which the air by which heat exchange was carried out to the washing in the drying stage reverse-flowed upward

through the crevice space A between wash-cum-the dehydration tack 6, and a cistern 5, and was newly supplied in the cistern 5. [this air style by which heat exchange was carried out is guided through the overflow tubing 27 and the exhaust duct 31 to the dehumidifier system 30 from the outlet 28 of a drain valve 18, and / moisture] although condensation clearance is carried out The air pass to dehumidifier styles, such as the overflow tubing 27 and the exhaust duct 31, had the structural problem of being complicated architecture. Furthermore, since a cistern 5 rocks according to the imbalance of clothing etc., the duct 23 and the exhaust duct 31 which are open for free passage to this are made from a flexible member, but wear of the ingredient by splash, and when a shake becomes dramatically in size, this cannot be absorbed but it may lead to the end of a terminal area, or destruction of components.
[0015] Moreover, since it becomes leading about of a complicated air course, pressure loss becomes large, and a big blower is needed and it also becomes a cost overrun.
[0016] The object of this invention cancels the inconvenience of said conventional example, and dries by contacting the warm air for desiccation for the washing held in wash-cum-the dehydration tack. It is in offering a certainly recoverable efficiently low cost washer/dryer with an easy configuration, without establishing exceptionally the pass for especially dehumidification of the moisture which evaporates from the washing in this drying stage.
[0017]
[Means for solving problem] [this invention] in the cistern supported by the 1st in the case in order to attain said object Arrange wash-cum-the dehydration tack which carried out the opening of the upper surface, enabling a free revolution, and a rotary wing is arranged in the bottom in this wash-cum-dehydration tack. In the washer/dryer which established a warm air feed means to supply warm air in said wash-cum-dehydration tack at the time of a drying stage, in said case up top cover etc., and established the dehumidification means which carries out condensation recovery of the moisture which evaporated from the washing Said dehumidification means makes dehumidification space crevice space between the inner wall side of a cistern, and the external wall surface of wash-cum-a dehydration tack. When the feed water part of cooling water was prepared above this dehumidification space, and this feed water part formed the dropping hole of cooling water so that the dropping location of cooling water might be located on the balancer of wash-cum-a downward dehydration tack It is not necessary to prepare the duct for dehumidification etc. exceptionally separately, and a dehumidifier style can be formed in an easy configuration

by using the crevice space with which the washer/dryer is equipped.

[0018] Since the dropping hole of the cooling water from the feed water part above dehumidification space was formed in the location of the periphery approach on the balancer of wash-cum-a dehydration tack, to the 2nd, it can prevent that the cooling water dropped on the balancer flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack to it.

[0019] Since the balancer formed the upper surface in a slope which becomes low toward the direction of outside dehumidification space, the cooling water dropped on the balancer flows [3rd] into the periphery side of wash-cum-a dehydration tack certainly along the dip. Therefore, it can prevent that cooling water flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack.

[0020] Since the balancer formed [4th] the projection part by a rib etc. inside on top, even if the cooling water dropped on the balancer tends to flow inside wash-cum-a dehydration tack, runoff into a tub is prevented by this projection part. Therefore, it can prevent that cooling water flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack.

[0021] Since the cooling water dropped on the balancer since the balancer formed [5th] the upper surface in the fine rugged surface hits this rugged surface, scatters finely in all directions, serves as fine waterdrop and flows into dehumidification space, its condensation function in this dehumidification space improves, and it can be dehumidified efficiently.

[0022] By having formed the dropping hole of the cooling water of a feed water part in cistern covering, having located the 6th in the periphery by the side of wash-cum-the dehydration tack of this dropping hole, and having protruded the peripheral wall on the underside of cistern covering in the shape of a periphery Since the cooling water dropped from a dropping hole flows below and falls along with this peripheral wall, it does not flow toward the inside of wash-cum-a dehydration tack.

[0023] Scattering feed of the dropped cooling water is carried out by the centrifugal force in crevice space by 7th rotating wash-cum-a dehydration tack at the time of dropping of cooling water.

[0024]

[Mode for carrying out the invention] The form of operation of this invention is hereafter explained in detail about Drawings. Drawing 1 has given the same reference mark to

the same composition as the conventional example which is the whole vertical section side elevation showing the 1st embodiment of the washer/dryer of this invention, and already explained drawing 6 .

[0025] It is the top cover which that of the entire configuration as which the washer/dryer of this invention also functions as a washer was the same as usual, arranged 1 in the case, arranged 2 in the upper part of this case 1 in drawing, and formed the opening 3 for washing receipts and payments, and opening and closing of opening 3 are enabled with the lid 4.

[0026] 5 is **** which collects wash liquid and rinse liquid in a case 1, and is supported by the case 1 free [a splash] with the vibration isolation (not shown). Wash-cum-the dehydration tack which 6 was arranged free [a revolution] in the cistern 5, and drilled two or more dehydrating holes 6a in the peripheral wall surface, The motor 9 which are the rotary wing which arranges 7 in the base of wash-cum-the dehydration tack 6 free [a revolution], and the drive unit which 8 is arranged in the outside bottom of a cistern 5, and offers the driving force of a revolution of a rotary wing 7 and wash-cum-the dehydration tack 6, and is made to generate driving force, It consists of a principal-axis pulley 12 connected by the motorized pulley 10 which slows down and transmits that driving force, and the belt 11, reduction-gear equipment 14, and clutch equipment 13 which changes the driving force to this reduction-gear equipment 14.

[0027] The balancer of the shape of a ring which 15 is attached [shape] to the upper bed part periphery of wash-cum-the dehydration tack 6, and reduces an oscillation of wash-cum-the dehydration tack 6 in a dehydration process, 16 is arranged so that the upper part of a balancer 15 may be covered from the upper bed of a cistern 5. Cistern covering of the shape of a ring which presses down spilling of the water by revolution of wash-cum-the dehydration tack 6, The inner cover whose opening and closing 18 is prepared in the bottom of a cistern 5, the drain valve which connected the exhaust hose 40, and 32 seal a cistern 5 at the time of a drying stage, and are enabled for receipts and payments of the washing, and 39 are the baffles formed in the inner wall of wash-cum-the dehydration tack 6.

[0028] 19 is the warm air generator formed in the space formed between a top cover 2 and the cistern covering 16. the inlet port 36 of the warm air which formed in the inner cover 32 the exhaust port 35 of the warm air formed in the soffit of the fan duct 34 which arranged the blower 20 and heater 21 by the air blasting fan 20b who drives by Motor 20a in the heater case 19a, and was formed in this heater case 19a at one, and estrangement -- it is made to counter in the condition

[0029] moreover, the lower part of the inlet port 38 of the warm air which formed the exhaust port 37 of the warm air from the cistern 5 side in the upper part location of the crevice space 41 between wash-cum-the dehydration tack 6, and a cistern 5 at said heater case 19a -- estrangement -- it is made to counter in the condition and an opening is carried out.

[0030] In this case, the air blasting fan 20b will be located above said inlet port 38 within the heater case 19a, and a heater 21 will be arranged in that downstream.

[0031] The dehumidifier style 45 is formed here by making crevice space 41 between wash-cum-the dehydration tack 6, and a cistern 5 into dehumidification space. The dehumidifier style 45 forms the feed zone 46 which has a feed water pore as a feed water part of cooling water in rest parts, such as the top cover 2 of the upper part of a case 1, as shown in drawing 1 as an example, and it is the lower part location. And the upper surface of the balancer 15 currently arranged in the upper bed edge of wash-cum-the dehydration tack 6 and the location which counters were made to estrange with said feed zone 46, and the water receiving part 47 which once stores this in response to cooling water was formed in it at the cistern covering 16.

[0032] The bottom of this water receiving part 47 was formed in the slope, and the dropping hole 48 of water was formed in the lowermost end. In this case, the formation position of a dropping hole 48 is located in that periphery approach on a balancer 15, as shown in drawing 2 .

[0033] Next, it washes and the action of the drying stage set up after a rinse and each termination of a process of dehydration is explained. When the air blasting fan 20b and a heater 21 operate, the air within the heater case 19a is heated, warm air occurs, warm air blows off from the exhaust port 35 of the soffit of the fan duct 34 toward the near inlet port 36 of a cistern 5, and warm air is supplied to the core of wash-cum-the dehydration tack 6.

[0034] In this case, since an inlet port 36 is located in the opposite location [directly under] of an exhaust port 35, it can send warm air to an inlet port 36 from an exhaust port 35 efficiently, and can prevent the leakage of warm air. Furthermore, since an exhaust port 35 and an inlet port 36 are estranged and are in a non-contact condition, even if a cistern 5 shakes, the top cover which is the rest portion in which the heater case 19a is arranged is not influenced.

[0035] The warm air which blew off in wash-cum-the dehydration tack 6 carries out direct contact to the washing having contained the moisture where a dehydration process is completed, and which is on the rotary wing 7 of wash-cum-the dehydration tack 6, and dries this. The warm air which took the moisture contained in the washing and

became humid flows into the crevice space 41 of a cistern 5 and wash-cum-the dehydration tack 6 through the vent and dehydrating hole 6a which were formed in the bottom of wash-cum-the dehydration tack 6.

[0036] This crevice space 41 is dehumidification space, and, as for the warm air which took the moisture contained in the washing and became humid, moisture is collected here. If an example of the method is explained below, tap water will be poured into the feed zone 46 of cooling water, and the downward water receiving part 47 will be supplied as cooling water from the feed water pore of a bottom.

[0037] The cooling water supplied to the water receiving part 47 falls through the dropping hole 48 at the bottom to the crevice space 41 which is the dehumidification space of the lower part. Therefore, cooling water contacting the warm air having contained the moisture in the crevice space 41, and cooling warm air directly, or by cooling the side attachment wall of wash-cum-the dehydration tack 6 around the crevice space 41, and the side attachment wall of a cistern 5 by cooling water, warm air is cooled, and the moisture contained in warm air condenses and is collected.

[0038] In this case, since the cooling water which falls in the crevice space 41 is dropped on the balancer 15 of wash-cum-the dehydration tack 6 in the opposite location of the lower part of a dropping hole 48, dropping water can be flown in the direction of the crevice space 41 which is dehumidification space using a revolution of wash-cum-the dehydration tack 6.

[0039] And it can prevent that the cooling water dropped on the balancer 15 flows through it into the core of wash-cum-the dehydration tack 6 since it was made to perform a dropping location in the near location of the periphery approach, i.e., dehumidification space, on the balancer 15, and can prevent pouring cooling water on the dry washing in wash-cum-the dehydration tack 6.

[0040] Since the upper surface of the balancer 15 was formed in a slope which becomes low toward the direction of outside dehumidification space as the 2nd example as shown in drawing 1 , the cooling water dropped on the balancer 15 flows into the periphery side of wash-cum-the dehydration tack 6 certainly along the dip. Therefore, it can prevent certainly that cooling water flows into the core of wash-cum-the dehydration tack 6, and can prevent pouring cooling water on the dry washing in wash-cum-the dehydration tack 6.

[0041] As the 3rd example, as shown in drawing 3 , the rib 49 was made to project, and the convex wall 50 was formed in the edge inside the upper surface of a balancer 15 like drawing 4 , and the level difference part was formed in it. Even if the cooling water dropped on the balancer 15 tends

to flow inside wash-cum-the dehydration tack 6 by this, it can prevent pouring cooling water on the washing which runoff into wash-cum-the dehydration tack 6 was prevented by the projection part by this rib 49 and convex wall 50, and was dried in wash-cum-the dehydration tack 6 by it.

[0042] As the 4th embodiment, as shown in drawing 3 and drawing 4 , the upper surface of the balancer 15 was formed in the fine rugged surface 51. For example, a crepe pattern can be formed as a form of a rugged surface 51, or it is possible to prepare a fine projection etc. Therefore, since the cooling water dropped on the balancer 15 hits this rugged surface 51, scatters finely in all directions, serves as fine waterdrop and flows into dehumidification space, its condensation function in this dehumidification space improves, and it can be dehumidified efficiently.

[0043] In this case, if the rib 49 and the convex wall 50 are formed in the upper part of the balancer 15 like the 3rd embodiment, the cooling water which hit and dispersed in the rugged surface 51 can prevent going into the core of wash-cum-the dehydration tack 6.

[0044] As shown in drawing 5 , the 5th embodiment was located in the periphery by the side of wash-cum-the dehydration tack 6 of the dropping hole 48 formed in the cistern covering 16, and protruded the peripheral wall 52 on the underside of the cistern covering 16 in the shape of a periphery. It can prevent applying cooling water to the washing which did not flow through toward the inside of wash-cum-the dehydration tack 6 and which was dried in wash-cum-the dehydration tack 6 by this, since the cooling water dropped from a dropping hole 48 flows below and falls along with this peripheral wall 52.

[0045]

[Effect of the Invention] [the washer/dryer of this invention] in the cistern supported by the 1st in the case as stated above Arrange wash-cum-the dehydration tack which carried out the opening of the upper surface, enabling a free revolution, and a rotary wing is arranged in the bottom in this wash-cum-dehydration tack. In the washer/dryer which established a warm air feed means to supply warm air in said wash-cum-dehydration tack at the time of a drying stage, in the top cover of said case upper part etc., and established the dehumidification means which carries out condensation recovery of the moisture which evaporated from the washing Said dehumidification means makes dehumidification space crevice space between the inner wall side of a cistern, and the external wall surface of wash-cum-a dehydration tack. When the feed water part of cooling water was prepared above this dehumidification space, and this feed water part formed the dropping hole of cooling water so that the dropping location of cooling water might

be located on the balancer of wash-cum-a downward dehydration tack It is not necessary to prepare the duct for dehumidification etc. exceptionally separately, and a dehumidifier style can be formed in an easy configuration by using the crevice space with which the washer/dryer is equipped.

[0046] To the 2nd, [dropping of the cooling water from the feed water part above dehumidification space] Since it was made to carry out to the location of the periphery approach on the balancer of wash-cum-a dehydration tack, it can prevent that the cooling water dropped on the balancer flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack.

[0047] Since the balancer formed the upper surface in a slope which becomes low toward the direction of outside dehumidification space, the cooling water dropped on the balancer flows [3rd] into the periphery side of wash-cum-a dehydration tack certainly along the dip. Therefore, it can prevent that cooling water flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack.

[0048] Since the balancer formed [4th] the projection part by a rib etc. inside on top, even if the cooling water dropped on the balancer tends to flow inside wash-cum-a dehydration tack, runoff into a tub is prevented by this projection part. Therefore, it can prevent that cooling water flows into the core of wash-cum-a dehydration tack, and can prevent pouring cooling water on the dry washing in wash-cum-a dehydration tack.

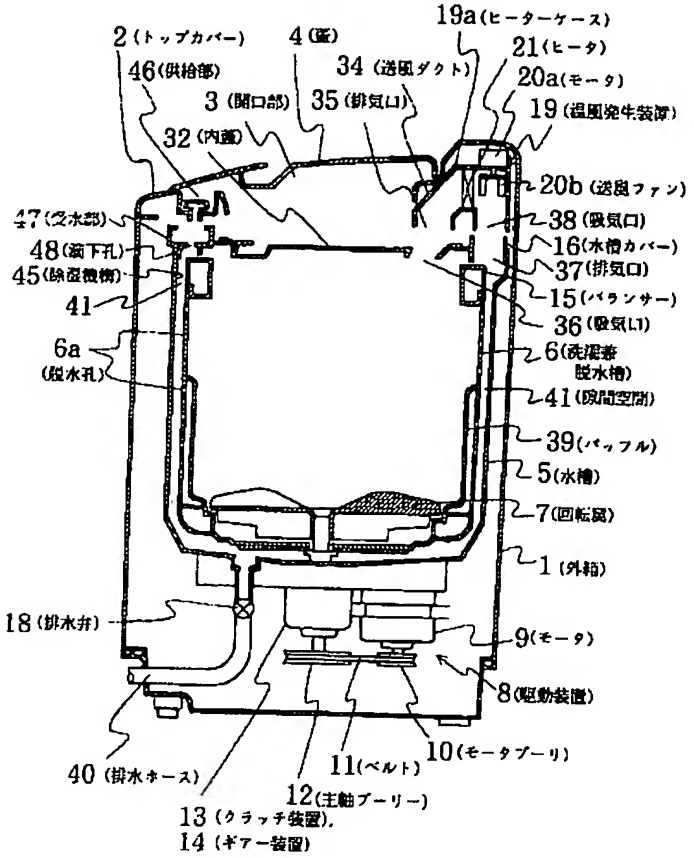
[0049] Since the cooling water dropped on the balancer since the balancer formed [5th] the upper surface in the fine rugged surface hits this rugged surface, scatters finely in all directions, serves as fine waterdrop and flows into dehumidification space, its condensation function in this dehumidification space improves, and it can be dehumidified efficiently.

[0050] By having formed the dropping hole of the cooling water of a feed water part in cistern covering, having located the 6th in the periphery by the side of wash-cum-the dehydration tack of this dropping hole, and having protruded the peripheral wall on the underside of cistern covering in the shape of a periphery Since the cooling water dropped from a dropping hole flows below and falls along with this peripheral wall, it does not flow toward the inside of wash-cum-a dehydration tack.

[0051] By 7th rotating wash-cum-a dehydration tack at the time of dropping of cooling water, scattering feed of the dropped cooling water is carried out by the centrifugal force in crevice space.

[Brief Description of the Drawings]
[Drawing 1] It is the vertical section side elevation showing the embodiment of the washer/dryer of this invention.
[Drawing 2] It is the vertical section side elevation of an important section showing the 1st and 2nd embodiment of the washer/dryer of this invention.
[Drawing 3] It is the vertical section side elevation of an important section showing the 3rd and 4th embodiment of the washer/dryer of this invention.
[Drawing 4] It is the vertical section side elevation of the important section of other examples showing the 3rd and 4th embodiment of the washer/dryer of this invention.
[Drawing 5] It is the partial notch **** perspective view of an important section showing the 5th embodiment of the washer/dryer of this invention.
[Drawing 6] It is the vertical section side elevation of the conventional washer/dryer.
[Explanations of letters or numerals]
1 [-- A lid, 5 / -- A cistern, 6 / -- Wash-cum-a dehydration tack,] -- A case, 2 -- A top cover, 3 -- Opening, 4 6a [-- A drive unit, 9 / -- Motor,] -- A dehydrating hole, 7 -- A rotary wing, 7a -- A rotary-wing vent, 8 10 [-- Clutch equipment,] -- A motorized pulley, 11 -- A belt, 12 -- A principal-axis pulley, 13 14 [-- Hose bonding opening,] -- Reduction-gear equipment, 15 -- A balancer, 16 -- Cistern covering, 17 18 [-- Blower,] -- A drain valve, 19 -- A warm air generator, 19a -- A heater case, 20 20a [-- Warm air,] -- A motor, 20b -- An air blasting fan, 21 -- A heater, 22 22a -- Humid warm air, 23 -- A duct, 24 -- Warm air back run cutoff member, 25 [-- An outlet, 29 / -- Valve plate,] -- A projection, 26 -- Sheet metal, 27 -- Overflow tubing, 28 30 [-- A vent, 34 / -- Fan duct,] -- A dehumidifier system, 31 -- An exhaust duct, 32 -- An inner cover, 33 35 [-- An inlet port, 39 / -- A baffle, 40 / -- An exhaust hose, 41 / -- Crevice space, 45 / -- A dehumidifier style, 46 / -- A feed zone, 47 / -- A water receiving part, 48 / -- A dropping hole, 49 / -- A rib, 50 / -- A convex wall, 51 / -- A rib, 52 / -- Peripheral wall] -- An exhaust port, 36 -- An inlet port, 37 -- An exhaust port, 38

[Drawing 1]



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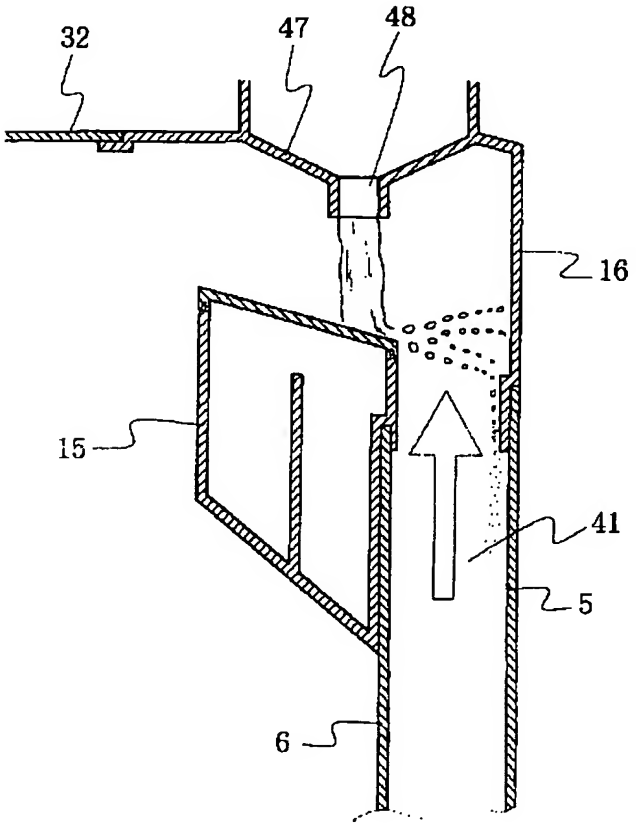

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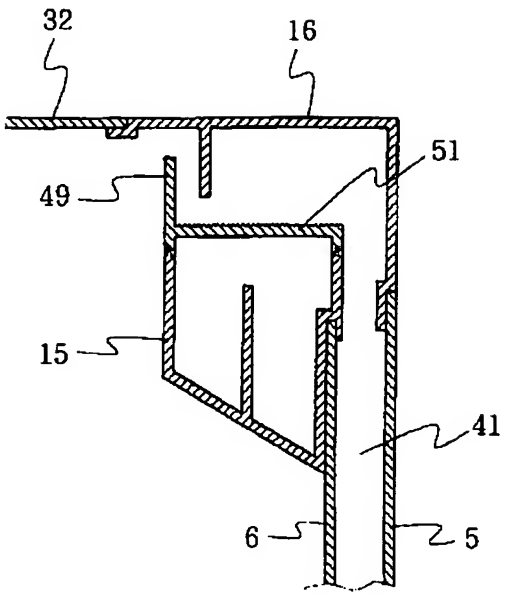

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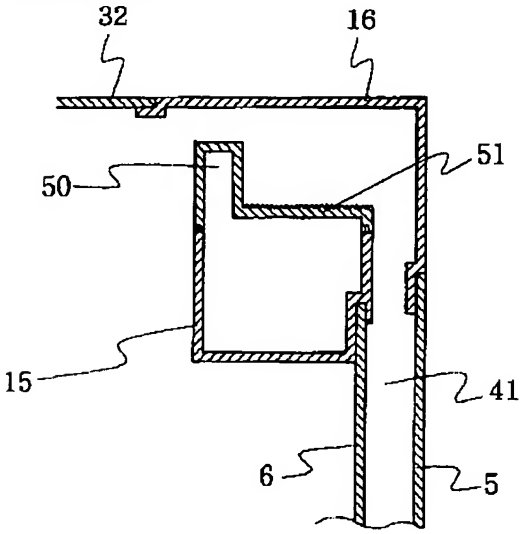

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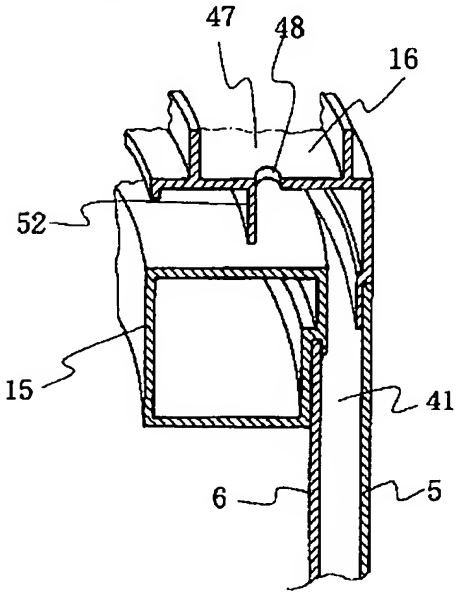

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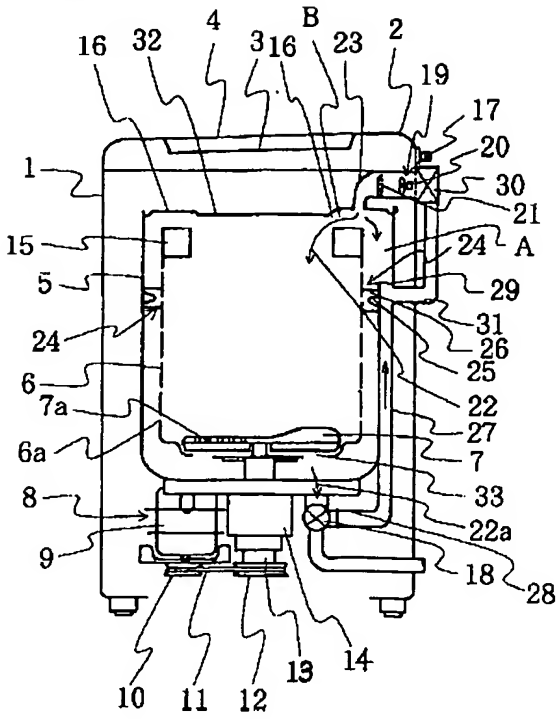

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Report Mistranslation | Japanese (whole document in PDF)

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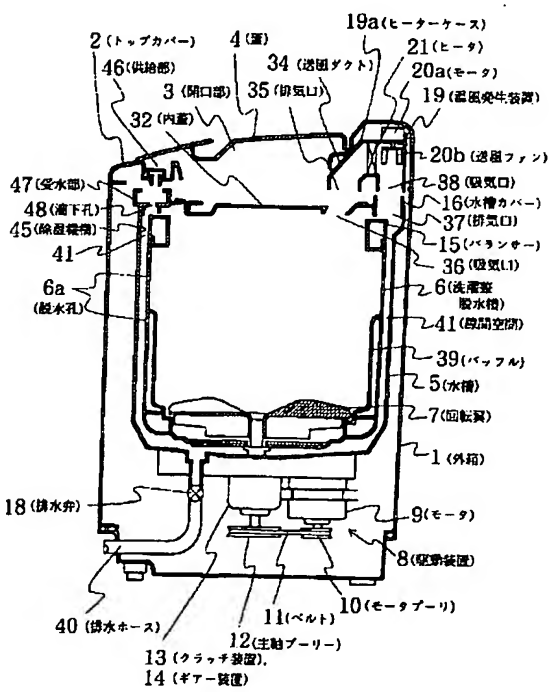
(54)【発明の名称】　洗濯乾燥機

(57)【要約】

【課題】　洗濯兼脱水槽内に収容された洗濯物に乾燥用の温風を接触させて乾燥を行い、この乾燥工程における洗濯物から蒸発する水分を特に除湿のための流路を格別に設けずに簡単な構造で、効率よく確実に回収できる低コストな洗濯乾燥機を得る。

【解決手段】　外箱１内に支持された水槽５内に、上面を開口した洗濯兼脱水槽６を回転自在に配設し、該洗濯兼脱水槽６内の底部に回転翼７を配設し、乾燥工程時に前記洗濯兼脱水槽６内に温風を供給する温風発生装置１９を前記外箱１に設け、洗濯物から蒸発した水分を凝縮回収する除湿機構４５を設けた洗濯乾燥機において、前記除湿機構４５は水槽５の内壁面と洗濯兼脱水槽６の外壁面との間の隙間空間４１を除湿空間として、該除湿空間の上方に冷却水の供給部４６を設け、該供給部４６は冷却水の滴下位置が下方の洗濯兼脱水槽６のバランサー１５上に位置するように冷却水の滴下孔４８を形成した。



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【特許請求の範囲】

【請求項１】　外箱内に支持された水槽内に、上面を開口した洗濯兼脱水槽を回転自在に配設し、該洗濯兼脱水槽内の底部に回転翼を配設し、乾燥工程時に前記洗濯兼脱水槽内に温風を供給する温風供給手段を設け、洗濯物から蒸発した水分を凝縮回収する除湿手段を設けた洗濯乾燥機において、前記除湿手段は水槽の内壁面と洗濯兼脱水槽の外壁面との間の隙間空間を除湿空間として、該除湿空間の上方に冷却水の給水部を設け、該給水部は冷却水の滴下位置が下方の洗濯兼脱水槽のバランサー上に位置するように冷却水の滴下孔を形成したことを特徴とする洗濯乾燥機。

【請求項２】　冷却水の滴下孔はバランサーの外周寄りに位置して形成したことを特徴とする請求項１記載の洗濯乾燥機。

【請求項３】　バランサーは、上面を外側の除湿空間の方向に向かって低くなるような傾斜面に形成したことを特徴とする請求項１記載の洗濯乾燥機。

【請求項４】　バランサーは、上面の内側にリブなどによる突出部を形成したことを特徴とする請求項１または請求項３に記載の洗濯乾燥機。

【請求項５】　バランサーは、上面を細かな凹凸面に形成したことを特徴とする請求項１、請求項３、請求項４のいずれかに記載の洗濯乾燥機。

【請求項６】　給水部の冷却水の滴下孔を水槽カバーに形成し、該滴下孔の洗濯兼脱水槽側の周縁に位置させ水槽カバーの下面に円周状に周壁を突設した請求項１から請求項５のいずれかに記載の洗濯乾燥機。

【請求項７】　冷却水の滴下時に脱水兼洗濯機を回転するようにした請求項１から請求項６のいずれかに記載の洗濯乾燥機。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は、洗濯乾燥運転の乾燥工程において洗濯兼脱水槽内に温風を供給して洗濯物を乾燥し、蒸発した水分を水として回収する洗濯乾燥機に関するものである。

【０００２】

【従来の技術】洗濯兼脱水槽内に収容した洗濯物に温風を効率よく接触させて乾燥し、蒸発した水分を水として回収する洗濯乾燥機が、例えば、特開平６－３２７８９６号公報に開示されている。図６は、この特開平６－３２７８９６号公報に開示の洗濯乾燥機の構造図であり、図において１は外箱、２はこの外箱１の上部に配設し洗濯物出し入れ用の開口部３を設けたトップカバーで、蓋４により開口部３の開閉を可能としている。

【０００３】５は外箱１内に洗濯液・濯ぎ液を溜める水槽で、防振装置（図示せず）により外箱１に揺動自在に支持されている。６は水槽５内に回転自在に配設され、複数の脱水孔６ａを周壁面に穿設した洗濯兼脱水槽、７

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は洗濯兼脱水槽６の底面に回転自在に配設する回転翼、８は水槽５の外側底部に配設され回転翼７および洗濯兼脱水槽６の回転の駆動力を提供する駆動装置であり、駆動力を発生させるモータ９と、その駆動力を減速して伝達するモータプーリ１０とベルト１１で連結している主軸プーリー１２と、ギアー装置１４と、このギアー装置１４への駆動力を切り替えるクラッチ装置１３とで構成される。

【０００４】１５は洗濯兼脱水槽６の上端部周縁に取り付けられ、脱水工程における洗濯兼脱水槽６の振動を低減させるリング状のバランサー、１６は水槽５の上端からバランサー１５の上方を覆うように配設し、洗濯兼脱水槽６の回転による水の飛び散りを押さえるリング状の水槽カバー、１７はトップカバー２に設け、水槽５内に洗濯水・濯ぎ水を供給するホース接続口、１８は水槽５の底部に接続した排水管に設けた排水弁である。

【０００５】１９はトップカバー２と水槽カバー１６との間に形成される外箱１内の空間に設けた温風発生装置であり、送風機２０とヒータ２１とで構成し、乾燥工程時に送風機２０で空気流を発生し、この空気流をヒータ２１で加熱して洗濯兼脱水槽６内に温風２２を送風する。２３は一端を水槽カバー１６、他端を温風発生装置１９に接続し、温風発生装置１９と水槽５とを連通させる可撓性のあるダクトである。

【０００６】２４は温風逆流遮断部材で、中央に三角形状の突起２５を形成し、この突起２５の上下に可撓性のある薄板２６を設けたものであり、水槽５の内周面に洗濯兼脱水槽６と隙間を維持するように突設して、洗濯兼脱水槽６と水槽５との隙間空間Ａを通過する水を円滑に流通し空気流は遮断する構成となっている。

【０００７】２７は一端に出口２８、他端にバルブ板２９を有するオーバーフロー管、３０は温風発生装置１９と連通する除湿装置で、バルブ板２９部に除湿装置３０と連通する排気ダクト３１を接続し、オーバーフロー管２７の出口２８を排水弁１８に接続して排水弁１８と除湿装置３０とを連通させる。

【０００８】３２はリング状の水槽カバー１６の中心開口部を塞ぐ内蓋、７ａは回転翼７に形成した回転翼通気孔、３３は洗濯兼脱水槽６の内底部に形成した通気孔である。

【０００９】次に、洗い、濯ぎ、脱水の各工程終了後に設定された乾燥工程の動作について説明する。送風機２０とヒータ２１とが作動することにより、温風が発生してダクト２３から洗濯兼脱水槽６の内部へと吹き出す。この場合、温風は水槽カバー１６の下面と洗濯兼脱水槽６の上端との間の隙間空間Ｂへと流れて、隙間空間Ｂからは洗濯兼脱水槽６内へと直接送風される。

【００１０】洗濯兼脱水槽６内に入り込んだ温風は、脱水工程が終了して洗濯兼脱水槽６内の回転翼７の上にある水分を含んだ洗濯物と直接接触し、これを乾燥させ

る。

【0011】洗濯物に含まれた水分を奪って湿度の高くなった温風は、洗濯兼脱水槽6の底部に形成された通気孔33を通過して水槽5と洗濯兼脱水槽6との隙間空間Aに流れ込むが、温風逆流遮断部材24により上方への流れが阻止されるため、下向きの空気流として排水管内を排水弁18へと流れ、出口28からオーバーフロー管27、排気ダクト31を経て、除湿装置30へ案内される。

【0012】湿度の高くなった温風22aは除湿装置30で冷却され、水分を凝縮除去されて再び温風発生装置19から温風22となって洗濯兼脱水槽6内へと送風される。以上の動作を所定時間実施して洗濯物を乾かす乾燥工程を行う。

【0013】なお、ダクト23より吹き出された温風は水槽5と洗濯兼脱水槽6との空間Aにも流れ込むが、温風逆流遮断部材24によって下方への流れが阻止され、洗濯兼脱水槽6内に有効に供給される。

【0014】

【発明が解決しようとする課題】前記のような洗濯乾燥機では洗濯兼脱水槽6と水槽5との間の隙間空間Aに温風逆流遮断部材24を設けることによって、乾燥工程において洗濯物と熱交換された空気が洗濯兼脱水槽6と水槽5との間の隙間空間Aを通じて上向きに逆流動して新たに水槽5内に供給された温風と混合するのを防ぎ、この熱交換された空気流が排水弁18の出口28からオーバーフロー管27、排気ダクト31を経て、除湿装置30へ案内され、水分を凝縮除去されるものであるが、オーバーフロー管27、排気ダクト31などの除湿機構への空気流路は、複雑な構成であるという構造的な問題があった。さらに、衣類のアンバランス等により水槽5が揺動するため、これに連通するダクト23、排気ダクト31は可撓性部材で作られるが、揺動による材料の摩耗や、揺れが非常に大なる場合にはこれを吸収することができず接続部の外れや部品の破壊につながる場合がある。

【0015】また、複雑な風路の引回しとなるため、圧力損失が大きくなり大きな送風機が必要となり、コスト高にもなる。

【0016】本発明の目的は前記従来例の不都合を解消し、洗濯兼脱水槽内に収容された洗濯物に乾燥用の温風を接触させて乾燥を行い、この乾燥工程における洗濯物から蒸発する水分を特に除湿のための流路を格別に設けずに簡単な構造で、効率よく確実に回収できる低コストな洗濯乾燥機を提供することにある。

【0017】

【課題を解決するための手段】本発明は前記目的を達成するため、第1に、外箱内に支持された水槽内に、上面を開口した洗濯兼脱水槽を回転自在に配設し、該洗濯兼脱水槽内の底部に回転翼を配設し、乾燥工程時に前記洗濯兼脱水槽内に温風を供給する温風供給手段を前記外箱上部トップカバー内などに設け、洗濯物から蒸発した水分を凝縮回収する除湿手段を設けた洗濯乾燥機において、前記除湿手段は水槽の内壁面と洗濯兼脱水槽の外壁面との間の隙間空間を除湿空間として、該除湿空間の上方に冷却水の給水部を設け、該給水部は冷却水の滴下位置が下方の洗濯兼脱水槽のバランサー上に位置するよう冷却水の滴下孔を形成したことにより、洗濯乾燥機に備わっている隙間空間を利用することにより、除湿のためのダクトなどを別途格別に設ける必要がなく、除湿機構を簡単な構造に形成できる。

【0018】第2に、除湿空間の上方の給水部からの冷却水の滴下孔は、洗濯兼脱水槽のバランサー上でその外周寄りの位置に形成したから、バランサー上に滴下した冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0019】第3に、バランサーは、上面を外側の除湿空間の方向に向かって低くなるような傾斜面に形成したから、バランサー上に滴下した冷却水はその傾斜にそって洗濯兼脱水槽の外周側に確実に流れる。よって、冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0020】第4に、バランサーは、上面の内側にリブなどによる突出部を形成したから、バランサー上に滴下した冷却水が洗濯兼脱水槽の内側に流れようとしても、この突出部によって槽内への流出が阻止される。よって、冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0021】第5に、バランサーは、上面を細かな凹凸面に形成したから、バランサー上に滴下した冷却水はこの凹凸面に当たって四方八方に細かく飛び散り、細かな水滴となって除湿空間に流れ込むから、該除湿空間内での凝縮作用が向上し、効率よく除湿できる。

【0022】第6に、給水部の冷却水の滴下孔を水槽カバーに形成し、該滴下孔の洗濯兼脱水槽側の周縁に位置させ水槽カバーの下面に円周状に周壁を突設したことにより、滴下孔から滴下する冷却水はこの周壁にそって下方に流れ落ちるから、洗濯兼脱水槽の内側に向かって流れることはない。

【0023】第7に、冷却水の滴下時には洗濯兼脱水槽を回転することにより、その遠心力によって、滴下された冷却水は隙間空間に飛散供給される。

【0024】

【発明の実施の形態】以下、図面について本発明の実施の形態を詳細に説明する。図1は本発明の洗濯乾燥機の第1実施形態を示す全体の縦断側面図で、図6について既に説明した従来例と同一の構成要素には同一の参照符

号を付してある。

【００２５】本発明の洗濯乾燥機も洗濯機として機能する全体構成は従来と同様であり、図において１は外箱、２はこの外箱１の上部に配設し洗濯物出し入れ用の開口部３を設けたトップカバーで、蓋４により開口部３の開閉を可能としている。

【００２６】５は外箱１内に洗濯液・濯ぎ液を溜める水槽で、防振装置（図示せず）により外箱１に揺動自在に支持されている。６は水槽５内に回転自在に配設され、複数の脱水孔６ａを周壁面に穿設した洗濯兼脱水槽、７は洗濯兼脱水槽６の底面に回転自在に配設する回転翼、８は水槽５の外側底部に配設され回転翼７および洗濯兼脱水槽６の回転の駆動力を提供する駆動装置であり、駆動力を発生させるモータ９と、その駆動力を減速して伝達するモータプーリ１０とベルト１１で連結している主軸プーリー１２と、ギアー装置１４と、このギアー装置１４への駆動力を切り替えるクラッチ装置１３とで構成される。

【００２７】１５は洗濯兼脱水槽６の上端部周縁に取り付けられ、脱水工程における洗濯兼脱水槽６の振動を低減させるリング状のバランサー、１６は水槽５の上端からバランサー１５の上方を覆うように配設し、洗濯兼脱水槽６の回転による水の飛び散りを押さえるリング状の水槽カバー、１８は水槽５の底部に設けられ、排水ホース４０を接続した排水弁、３２は乾燥工程時に水槽５を密閉し、洗濯物の出し入れのために開閉可能とする内蓋、３９は洗濯兼脱水槽６の内壁に設けたバッフルである。

【００２８】１９はトップカバー２と水槽カバー１６との間に形成される空間に設けた温風発生装置であり、ヒーターケース１９ａ内にモータ２０ａで駆動する送風ファン２０ｂによる送風機２０とヒータ２１とを配設し、該ヒーターケース１９ａに一体に形成した送風ダクト３４の下端に形成した温風の排気口３５を内蓋３２に形成した温風の吸気口３６と離間状態で対向させる。

【００２９】また、洗濯兼脱水槽６と水槽５との間の隙間空間４１の上方位置に水槽５の側からの温風の排気口３７を、前記ヒーターケース１９ａに形成した温風の吸気口３８の下方に離間状態で対向させて開口する。

【００３０】この場合、ヒーターケース１９ａ内で送風ファン２０ｂは前記吸気口３８の上方に位置し、その下流側にヒータ２１が配設されることになる。

【００３１】洗濯兼脱水槽６と水槽５との間の隙間空間４１を除湿空間として、ここに除湿機構４５を設ける。除湿機構４５は、一例として図１に示すように外箱１の上部のトップカバー２などの静止部に冷却水の給水部として、給水孔を有する供給部４６を設け、その下方位置で、かつ、洗濯兼脱水槽６の上端縁に配設してあるバランサー１５の上面と対向する位置に、前記供給部４６と離間させて、冷却水を受けて一旦これを貯留する受水部４７を水槽カバー１６に設けた。

【００３２】該受水部４７の底部を傾斜面に形成し、その最下端に水の滴下孔４８を形成した。この場合、滴下孔４８の形成位置は図２に示すようにバランサー１５上でその外周寄りに位置させる。

【００３３】次に、洗い、濯ぎ、脱水の各工程終了後に設定された乾燥工程の動作について説明する。送風ファン２０ｂとヒータ２１とが作動することにより、ヒーターケース１９ａ内の空気が加熱されて、温風が発生して送風ダクト３４の下端の排気口３５から温風が水槽５の側の吸気口３６に向かって吹き出し、温風が洗濯兼脱水槽６の内部へと供給される。

【００３４】この場合、吸気口３６は排気口３５の直下の対向位置にあるから、温風を効率よく排気口３５から吸気口３６に送ることができ、温風の漏れを防止できる。さらに、排気口３５と吸気口３６とは離間して非接触状態にあるから、水槽５が揺れても、ヒーターケース１９ａが配設されている静止部分であるトップカバーに影響することはない。

【００３５】洗濯兼脱水槽６内に吹き出された温風は、脱水工程が終了して洗濯兼脱水槽６の回転翼７上にある水分を含んだ洗濯物と直接接触し、これを乾燥させる。洗濯物に含まれた水分を奪って多湿となった温風は、洗濯兼脱水槽６の底部に形成された通気孔や脱水孔６ａを経て水槽５と洗濯兼脱水槽６との隙間空間４１に流れ込む。

【００３６】この隙間空間４１は除湿空間であり、洗濯物に含まれた水分を奪って多湿となった温風はここで水分が回収される。その方法の一例を次に説明すると、冷却水の供給部４６に例えば水道水を注入し、底部の給水孔から下方の受水部４７に冷却水として供給する。

【００３７】受水部４７に供給された冷却水は底面の滴下孔４８を通ってその下方の除湿空間である隙間空間４１に落下する。よって、隙間空間４１内の水分を含んだ温風に冷却水が接触して温風を直接冷却することにより、または、隙間空間４１の周囲の洗濯兼脱水槽６の側壁や水槽５の側壁を冷却水で冷却することにより温風が冷却されて、温風に含まれている水分が凝縮して回収される。

【００３８】この場合、隙間空間４１内に落下する冷却水は、滴下孔４８の下方の対向位置にある洗濯兼脱水槽６のバランサー１５の上に滴下するから、滴下水は洗濯兼脱水槽６の回転を利用して除湿空間である隙間空間４１の方向に飛ばすことができる。

【００３９】しかも、滴下位置はバランサー１５上でその外周寄り、すなわち除湿空間の側の位置に行うようにしたから、バランサー１５上に滴下した冷却水が洗濯兼脱水槽６の内部に流れることを防止でき、洗濯兼脱水槽６内の乾燥した洗濯物に冷却水がかかることを防げる。

【００４０】第２実施例として、図１に示すようにバラ

ンサー15の上面を外側の除湿空間の方向に向かって低くなるような傾斜面に形成したから、バランサー15上に滴下した冷却水はその傾斜にそって洗濯兼脱水槽6の外周側に確実に流れる。よって、冷却水が洗濯兼脱水槽6の内部に流れることを確実に防止でき、洗濯兼脱水槽6内の乾燥した洗濯物に冷却水がかかることを防げる。

【0041】第3実施例として、図3に示すようにバランサー15の上面の内側の端部にリブ49を突出させたり、図4のように凸壁50を設けて段差部を形成した。これにより、バランサー15上に滴下した冷却水が洗濯兼脱水槽6の内側に流れようとしても、このリブ49や凸壁50による突出部によって洗濯兼脱水槽6内への流出が阻止され、洗濯兼脱水槽6内の乾燥した洗濯物に冷却水がかかることを防げる。

【0042】第4実施形態として、図3、図4に示すようにバランサー15の上面を細かな凹凸面51に形成した。凹凸面51の形態としては例えば梨地模様を形成したり、細かな突起を設けることなどが考えられる。よって、バランサー15上に滴下した冷却水はこの凹凸面51に当たって四方八方に細かく飛び散り、細かな水滴となって除湿空間に流れ込むから、該除湿空間内での凝縮作用が向上し、効率よく除湿できる。

【0043】この場合は、第3実施形態のようにバランサー15の上部にリブ49や凸壁50を設けておけば、凹凸面51に当たって飛散した冷却水が洗濯兼脱水槽6の内部に入ることを防げる。

【0044】第5実施形態は図5に示すように、水槽カバー16に形成した滴下孔48の洗濯兼脱水槽6側の周縁に位置させて水槽カバー16の下面に円周状に周壁52を突設した。これにより、滴下孔48から滴下する冷却水はこの周壁52にそって下方に流れ落ちるから、洗濯兼脱水槽6の内側に向かって流れることはなく、洗濯兼脱水槽6内の乾燥した洗濯物に冷却水がかかることを防げる。

【0045】

【発明の効果】以上述べたように本発明の洗濯乾燥機は、第1に、外箱内に支持された水槽内に、上面を開口した洗濯兼脱水槽を回転自在に配設し、該洗濯兼脱水槽内の底部に回転翼を配設し、乾燥工程時に前記洗濯兼脱水槽内に温風を供給する温風供給手段を前記外箱上部のトップカバー内などに設け、洗濯物から蒸発した水分を凝縮回収する除湿手段を設けた洗濯乾燥機において、前記除湿手段は水槽の内壁面と洗濯兼脱水槽の外壁面との間の隙間空間を除湿空間として、該除湿空間の上方に冷却水の給水部を設け、該給水部は冷却水の滴下位置が下方の洗濯兼脱水槽のバランサー上に位置するように冷却水の滴下孔を形成したことにより、洗濯乾燥機に備わっている隙間空間を利用することにより、除湿のためのダクトなどを別途格別に設ける必要がなく、除湿機構を簡単な構造に形成できる。

【0046】第2に、除湿空間の上方の給水部からの冷却水の滴下は、洗濯兼脱水槽のバランサー上でその外周寄りの位置に行うようにしたから、バランサー上に滴下した冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0047】第3に、バランサーは、上面を外側の除湿空間の方向に向かって低くなるような傾斜面に形成したから、バランサー上に滴下した冷却水はその傾斜にそって洗濯兼脱水槽の外周側に確実に流れる。よって、冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0048】第4に、バランサーは、上面の内側にリブなどによる突出部を形成したから、バランサー上に滴下した冷却水が洗濯兼脱水槽の内側に流れようとしても、この突出部によって槽内への流出が阻止される。よって、冷却水が洗濯兼脱水槽の内部に流れることを防止でき、洗濯兼脱水槽内の乾燥した洗濯物に冷却水がかかることを防げる。

【0049】第5に、バランサーは、上面を細かな凹凸面に形成したから、バランサー上に滴下した冷却水はこの凹凸面に当たって四方八方に細かく飛び散り、細かな水滴となって除湿空間に流れ込むから、該除湿空間内での凝縮作用が向上し、効率よく除湿できる。

【0050】第6に、給水部の冷却水の滴下孔を水槽カバーに形成し、該滴下孔の洗濯兼脱水槽側の周縁に位置させ水槽カバーの下面に円周状に周壁を突設したことにより、滴下孔から滴下する冷却水はこの周壁にそって下方に流れ落ちるから、洗濯兼脱水槽の内側に向かって流れることはないものである。

【0051】第7に冷却水の滴下時には洗濯兼脱水槽を回転することにより、その遠心力によって、滴下された冷却水は隙間空間に飛散供給される。

【図面の簡単な説明】

【図1】本発明の洗濯乾燥機の実施形態を示す縦断側面図である。

【図2】本発明の洗濯乾燥機の第1、第2実施形態を示す要部の縦断側面図である。

【図3】本発明の洗濯乾燥機の第3、第4実施形態を示す要部の縦断側面図である。

【図4】本発明の洗濯乾燥機の第3、第4実施形態を示す他の例の要部の縦断側面図である。

【図5】本発明の洗濯乾燥機の第5実施形態を示す要部の一部切欠いた斜視図である。

【図6】従来の洗濯乾燥機の縦断側面図である。

【符号の説明】

1…外箱、2…トップカバー、3…開口部、4…蓋、5…水槽、6…洗濯兼脱水槽、6a…脱水孔、7…回転翼、7a…回転翼通気孔、8…駆動装置、9…モータ、

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１０…モータプーリ、１１…ベルト、１２…主軸プーリー、１３…クラッチ装置、１４…ギアー装置、１５…バランサー、１６…水槽カバー、１７…ホース接続口、１８…排水弁、１９…温風発生装置、１９ａ…ヒーターケース、２０…送風機、２０ａ…モータ、２０ｂ…送風ファン、２１…ヒータ、２２…温風、２２ａ…湿度の高い温風、２３…ダクト、２４…温風逆流遮断部材、２５…突起、２６…薄板、２７…オーバーフロー管、２８…出

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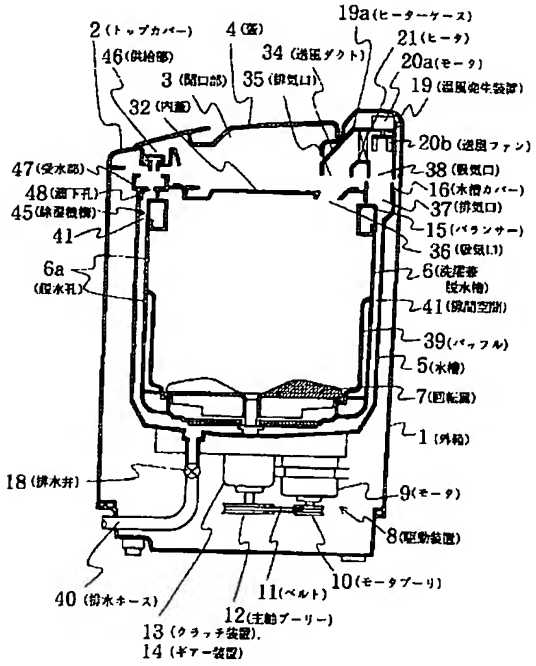
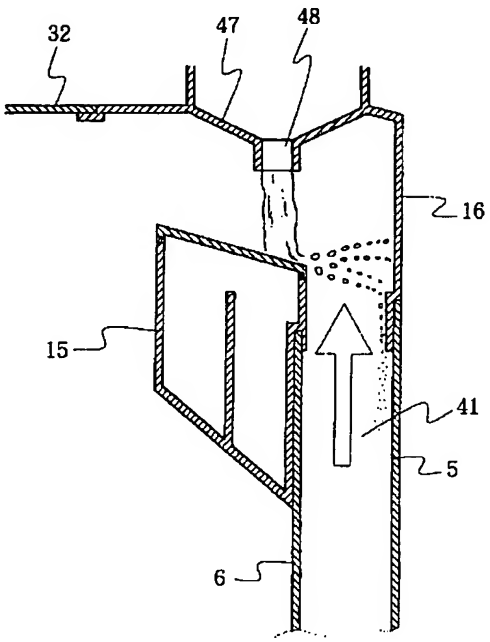
口、２９…バルブ板、３０…除湿装置、３１…排気ダクト、３２…内蓋、３３…通気孔、３４…送風ダクト、３５…排気口、３６…吸気口、３７…排気口、３８…吸気口、３９…バッフル、４０…排水ホース、４１…隙間空間、４５…除湿機構、４６…供給部、４７…受水部、４８…滴下孔、４９…リブ、５０…凸壁、５１…リブ、５２…周壁

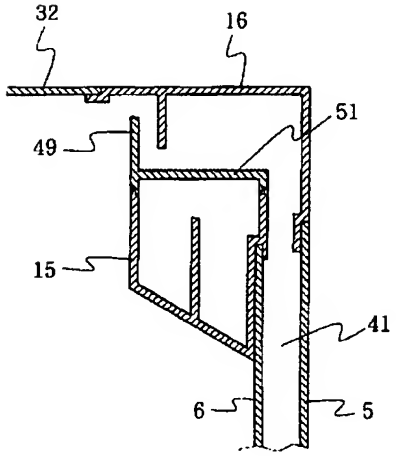
【図１】



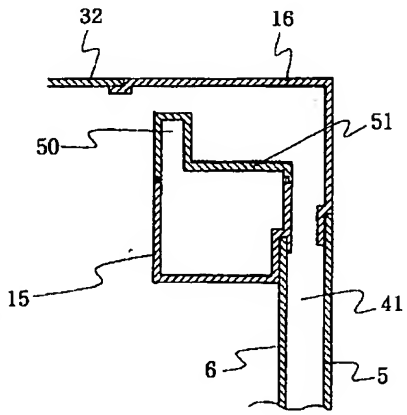
【図２】



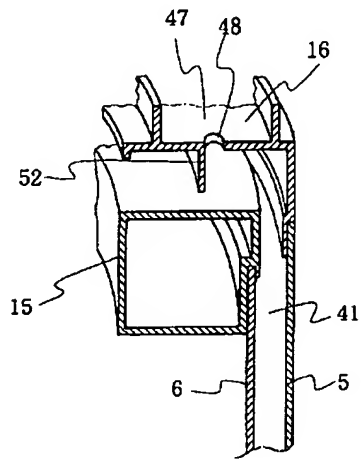
【図３】



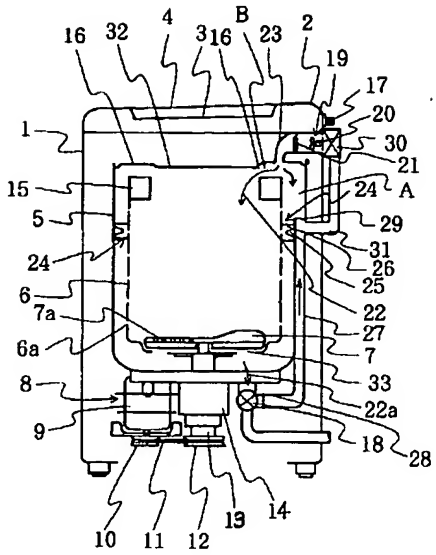
【図４】



【図５】



【図6】



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the inner surface of the tank 5 and the outer surface of the washing and dewatering basket 6. Opening for putting cooling water 46 is provided with the upper side of the dehumidifying space 41. Hole for dripping of the cooling water 48 is formed so that the cooling water drops onto balancer 15 in the washing and dewatering tank 6.

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ABSTRACT:

PROBLEM TO BE SOLVED: To offer an inexpensive dryer which dries laundry in the basket by sending a warm current of air to it, having a simple structure without a passage for dehumidifying the moisture evaporated from the laundry in the process of drying.

SOLUTION: Washing and dewatering basket 6 with an opening on the upper side is revolvably provided with the inside of tank 5 supported in cabinet 1. Vane 7 is fixed on the bottom of the washing and dewatering tank 6. Warm air producing device 19, which sends a warm current of air to the inside of the washing and dewatering basket 6 in the process of drying, it provided on the cabinet 1. Dehumidifying mechanism 45 condenses the moisture from the laundry and collects it. The dehumidifying mechanism 45 has dehumidifying space 41 between